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INDUSTRIAL DEVELOPMENT AND COOPERATION ACTIVITIES: DEVELOPMENT OF HUMAN RESOURCES FOR INDUSTRY

Report by the Director-General

Summary

Reports on the implementation of UNIDO activities for the development of human resources for industry, in compliance with General Conference resolution GC.5/Res.2 and decision IDB.13/Dec.3 of the Industrial Development Board.

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Introduction

1. As one of the five development objectives of UNIDO, development of human resources for industry is covered in one of the sections of chapter II of the *Annual Report of UNIDO 1994*, which reviews the activities of the Organization that primarily address that development objective.

2. At its fifth session, in resolution GC.5/Res.2, the General Conference, while endorsing Industrial Development Board decision IDB.11/Dec.3, requested the Director-General: to address in particular the needs of managerial training and human resources development in the areas of technology and management, quality control and productive techniques; to strengthen institutions in developing countries to enhance their capacity for national execution of development cooperation projects; to assist in the assessment of changing skill requirements and in strengthening the capacities of industry, especially industrial associations for human resources development; and to report on the implementation of the resolution through the Board to the Conference at its sixth session.

3. The report of the Director-General (GC.6/5-IDB.13/12, chap. I) was presented to the Board at its thirteenth session. On that occasion, the Board in its decision IDB.13/Dec.3 requested the Director-General to further develop and strengthen the human resources development activities of UNIDO in a number of areas, to continue to mobilize extrabudgetary resources in support of these activities, and in his report to the General Conference on the implementation of resolution GC.5/Res.2, to comment also on the implementation of the recommendations of the in-depth evaluation of UNIDO human resources development activities prepared by the UNIDO Evaluation Staff. The present report has been prepared in compliance with the latter request.

I. THE CONTEXT

4. As pointed out in the 1993 in-depth evaluation of UNIDO industrial human resources development activities of UNIDO (IDB.11/CRP.3, annex), human resources development (HRD) has traditionally been associated almost exclusively with training, while in fact HRD broadly relates to enhancing the application of updated knowledge and improved skills in industry and the resulting impact on socio-economic development. (In keeping with the in-depth evaluation and ongoing re-structuring efforts, particular attention has been directed to creating a comprehensive framework and integrated approach to HRD.) The core of this comprehensive approach to HRD links supply elements of education and skills planning and demand elements of employment and changing labour market conditions.

5. UNIDO's new HRD concept and programme approaches were the basis for position papers for the 1995 United Nations World Summit on Social Development in Copenhagen, for the Fourth World Conference on Women just concluded at Beijing and for a contribution to a United Nations General Assembly report on human resources development.

6. With the aim of enhancing developing countries' industrial productivity and competitiveness in the globalized production system, the HRD programme has been refocused to assist developing countries as well as economies in transition to build up a critical mass of entrepreneurs, managers, technicians and technology-support professionals. To this end UNIDO has established a demand-oriented, integrated HRD programme in three primary activity areas, interlocking at three levels of support:

(a) Upstream services, including policy advice based on analysis and assessment of requirements;

(b) Institutional capacity-building and catalytic learning systems, including training, at subsector levels and in specialized fields;

(c) Communication networks to facilitate coordination, synergy of efforts, interaction and a flow of information.

7. To enable UNIDO clients to make an informed and qualitative selection of learning opportunities in industrial development, the *Guide to Training Opportunities for Industrial Development* has been revised. The Guide is being targeted for Internet access by the first quarter of 1996, thus functioning as a truly global network and reliable source of information among HRD practitioners.

II. A NEW HRD PARADIGM FOR CAPACITY-BUILDING

8. The conceptual framework for UNIDO capacity-building measures in HRD covers three elements: knowledge-based products; delivery mechanisms; and support infrastructure. The term "products" is used to emphasize the rising need to disaggregate and organize learning experiences into modules, and then to package these "products" into more user-friendly and flexible sets of integrated activities that match labour force needs.

UNIDO's HRD modular learning experiences impart technical skills and knowledge, while improving professional abilities and personal attitudes necessary for sustainable industrial development.

A. Delivering a modular learning experience

9. Modular learning experiences can best be provided through a combination of flexible delivery mechanisms taking into account: infrastructure suited for the beneficiaries; access to necessary hardware and software; and the characteristics of the target recipients, including know-how. These delivery mechanisms include lectures and seminars, interactive computers, correspondence courses, videos and television, radio and hands-on experience. A modular learning experience focuses on one delivery mechanism as a core medium, while other vehicles are used as re-enforcing media.

B. HRD support infrastructure

10. The successful delivery and outcome of knowledge-based products is directly related to the effectiveness of support infrastructure put into place by a host Government or an enterprise. At the macro-level, assistance is directed towards strengthening national policies and guidelines, as well as in formulating HRD laws and regulations. Institutional linkage and feedback mechanisms between the public and private sectors are considered, and standards and quality control introduced in line with international norms. At the micro-level, the private sector is relied upon for local capacity-building, implementation of post-service support programmes and open access to information sources.

C. The HRD Branch and the new paradigm

11. Within this conceptual framework the HRD Branch, assisted by a group of international advisers, undertook a review of its activities to verify and help determine UNIDO's niche for HRD based on the needs of client countries and its comparative advantage, and to specify UNIDO's cooperation and coordination with other United Nations agencies. The following sections provide a brief overview of three distinctive but interrelated sets of outputs and activities undertaken.

III. CLIENT-ORIENTED HRD PLANNING

12. The main point of departure for creating a product or service is the desired outcome for a particular client. Conventional approaches have made limited contributions to effective outcome-oriented planning. To address this issue, an innovative methodology designed to assist industrial entrepreneurs and government officials was developed and tested. The methodology has been incorporated into the design and implementation of group training programmes as part of intensive efforts to reform such programmes. Examples are the awareness-building seminars on quality management and quality improvement of industrial products for Asian countries, and on the preparation, evaluation and management of industrial projects for African countries.

IV. HRD FOR INDUSTRY: PATTERNS, STRATEGIES AND ACTION PROGRAMMES

13. The design of appropriate policies, strategies and programmes for building up a critical mass of resourceful women, men and youths able to make the desired impact requires the analysis of interactions between components of an HRD system for industry. Such analysis facilitates the disaggregation of labour market needs, the identification of constraints and bottlenecks prevailing in the system, the identification of solutions to eliminate constraints, and the design of HRD strategies and programmes to promote a balanced development of the system.

14. An analytical model cum road map was devised covering the above components and indicators, including gender issues, that succinctly analyse prevailing patterns of HRD. The model was applied to a preliminary study of the HRD terrain in Latin America and the Caribbean.

15. An over-arching framework for defining policy strategies for HRD programmes and for ensuring integration of all in-house activities was developed. The framework has also served to develop methods of inter-agency cooperation and coordination on the basis of comparative advantage. One result is a university-industry linkage mechanism (GRIP: Graduate Resources Integration Programme), with a specific proposal for a UNIDO-UNESCO programme in the Russian Federation. Consolidating the complementary comparative advantages of the three partners, the proposed programme is expected to match labour output from institutes of higher education and the labour needs of industry.

V. THE NEW PARADIGM AT WORK

16. Technical cooperation undertaken by UNIDO in HRD responds directly to the concerns of Member States as expressed in General Conference resolution GC.5/Res.2 and Board decision IDB.13/Dec.3. Particular emphasis has been placed on local capacity-building exercises that highlight issues relevant to mainstreaming women, technology transfer, project appraisal and preparation, restructuring and privatization, investment promotion, environment protection, energy, and small and medium enterprises.

17. Based on the new conceptual framework, attention has been directed towards strengthening the enabling environment to support sector- and industry-specific HRD programmes implemented by various UNIDO divisions and branches. Assistance has been provided to Governments in formulating an integrated HRD policy and strategy through dialogue with key representatives from ministries of finance, industry, trade, education, and labour, professional associations, and chambers of commerce to gauge demand-side inputs into HRD planning.

18. UNIDO's restructured HRD conceptual framework and programme have been the basis for specific contributions to the following international events and inter-agency exercises:

(a) Conference of African Ministers of Industry, twelfth session, Gaborone, Botswana (June 1995);

(b) International conference on human resources development in a changing world, Melbourne, Australia (July 1995);

(c) University-industry cooperation conferences in Accra, Ghana, and Port-of-Spain, Trinidad and Tobago (both in September 1995).

Additional examples of the application of the new conceptual framework in recent UNIDO activities are provided in the *Annual Report of UNIDO 1994* (IDB.14/10, chap. II.A, para. 61).

19. A paper was prepared for the conference of Ministries of Industry in Latin America on the pilot test application of the new HRD analytical model to the HRD-industry system in the region. The strategies and programmes derived are specific to each identified pattern of HRD, and are applicable at the country level. The results will be of major benefit to developing countries. They will also be valuable to other United Nations organizations and to bilateral donors.

20. Four awareness-building seminars for entrepreneurs, managers, policy makers and senior government officials were held in 1995 for Africa, Asia and Latin America and the Caribbean on such topics as project management, technology management and quality.

21. A wide range of technical cooperation projects that highlight HRD activities have been implemented by UNIDO. The examples cited in the present document illustrate the large set of activities and provide insight into ongoing, in-depth substantive work.

A. Macro-level support

22. Macro-level HRD support activities are included in enterprise development and strengthening efforts to assist public enterprises restructure and/or privatize and improve quality and standardization. For example, environment management in the Danube River Basin has been designed to expand environmental awareness and capacity-building at the policy level through lectures, seminars and workshops.

23. Within the context of a broader national policy integrating HRD concerns, sector- and industry-specific activities have been directed to national capacity-building through the training of trainers in information resource management and the effective use of electronic network systems to disseminate market and industry data to local enterprises. Similar HRD-related programmes take advantage of and strengthen indigenous capacities of local intermediaries such as professional associations, chambers of commerce and non-governmental organizations as a means of delivering programmes in tune with specific local needs.

24. As described in the *Annual Report of UNIDO 1994* the revision of the training programme on industrial planning in Japan led to a new seminar on technology management and industrial development (ibid., para. 64). Participants from five developing countries benefited from the practical sessions and study visits, which provided Japanese knowledge and experience in technology transfer and production processes. The second phase of a training programme to promote women's participation in the modernization process of China is now under way. The programme emphasizes catalytic learning experiences through the training of trainers for women entrepreneurs. Quality and laboratory managers in the Hungarian food industry took part in a course on quality management in Budapest in September 1995. A training of trainers course will be held in the area of agro-food product packaging in Morocco in October-November 1995.

B. Micro-level support

25. At the enterprise level, a wide range of sector- and industry-specific HRD programmes have been implemented, e.g. training of trainers to conduct project appraisal and preparation of investment projects in developing countries, outreach and capacity-building exercise for women in small-scale agro-based enterprise workshops, and pilot training programmes to improve energy efficiency. Examples of enhancing local capacity to manage industry-specific technology transfer include an Africa-wide training course on footwear technology and training for trainers of leather manufacturing

technology, tannery machinery maintenance and pollution control in the leather industry.

26. A regional workshop for Arab LDCs was held in June 1995 for engineers and technicians on critical maintenance issues. Under the same entrepreneurship umbrella programme that was pilot tested for women textile entrepreneurs in Kenya's informal sector (*Jua Kali*), a project is also under way to upgrade technology and enhance the technical and entrepreneurial capabilities of the Jua Kali Ziwani Motor Mechanics Association.

C. Responding to changing demands

27. The varied activities and sectoral areas mentioned above reflect the change taking place in UNIDO's approach to a comprehensive and integrated HRD programme. The new conceptual framework was devised in response to the findings of the in-depth evaluation of UNIDO HRD activities. The options approach was seen as a useful means of categorizing activities perceived to be needed for developing in-house HRD capacity in UNIDO. However, this approach limited alternative paths for developing HRD activities as both in-house organizational demands (budget reallocation and funds mobilization) and external socio-economic conditions change. In effect, the options approach eliminated the prospect of employing a truly dynamic process of building in-house capacity and delivering an integrated HRD programme, a critical factor for HRD planning at a time when rapid technological and market change are viewed as normal processes.

28. As the review mentioned in paragraph 11 above took place during a UNIDO-wide reform process, inputs to and from the reform exercise were taken into consideration. Specifically, the work of the HRD Branch was reviewed in terms of efficiency measures and issues related to the elaboration of the seven priority themes. The consolidation of these activities will help UNIDO define a new trajectory for HRD programmes, especially within the context of sustainable industrial development and inter-agency cooperation.

VI. ACTION REQUIRED OF THE CONFERENCE

29. The Conference may wish to take note of the information contained in the present document and provide guidance for follow-up action.